

REMARKS

Claims 1-16 were originally presented for examination. Claims 1-4 and 13-16 presently stand withdrawn as non-elected. Claims 5-12 have been examined on the merits. Claim 10 is amended. Accordingly, Claims 5-12 remain for further consideration.

The §112 Rejection of Claim 10:

Claim 10 presently stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite on the ground that the range specified is different from the range recited in Claim 5.

The range in Claim 10 is amended to conform to the range recited in Claim 5. Accordingly, this rejection has been overcome and should be withdrawn.

The Obviousness Rejection of Claims 5-6 and 8-12:

Claims 5-6 and 8-12 presently stand rejected as being obvious to one of ordinary skill in the art considering the Taylor patent (U.S. Patent No. 5,997,938) in view of the Shanbhag et al. '616 patent (U.S. Patent no. 5,004,616) and the Saunders et al. (U.S. Patent No. 4,219,575) or the Citti et al. patent (U.S. patent No. 4,198,437).

The Office Action argues:

Taylor et al. (column 4) discloses preparing oil coated French fries including cutting, blanching, par-frying, oil enrobing, freezing and oven reconstituting. It would have been obvious to

also coat the French fries in Taylor et al. with an encapsulated salt since it is old to coat French fry potato strips with a fat encapsulated salt prior to freezing, packaging and reheating in a microwave oven, as taught by Shanbhag et al. (columns 10 and 11). Further, it would have been obvious to cut the potatoes in Taylor et al. to include a plurality of alternating ridges and grooves since it is old to prepare French fries having such shapes, as taught by Saunders et al. (Fig. 1) or Citti et al. (Fig. 2).

Response:

Applicants traverse this rejection.

The Saunders et al. patent and the Citti et al. patent are applied in the rejection for their disclosure of crinkle cut fries (see the referenced figures of those patents and Claim 12). Thus, the Taylor et al. and the Shanbhag '616 patents are the principal focus of the rejection as it applies to Claims 5-11.

The Taylor et al. patent (U.S. Patent 5,997,938) concerns a process for preparing oven-finished French fries. Taylor et al. explain, in the Background of the Invention (Col. 1, lines 16-17) that there are "major problems associated with state of the art oven-finished French fries". In their discussion of "Prebake Fries" (Col. 2, line 63, to Col. 3, line 11) Taylor et al. distinguish shoestring cut, crinkle cut, regular cut, and steak cut fries. Taylor et al. preferably deal with shoestring cut fries, as expressly stated (Col. 2, lines 63-67), and as described in the information given in Tables 1 and 5, and information in Examples 1-3.

According to Taylor et al., potato strips are conventionally blanched, optionally treated by water immersion, sodium acid pyrophosphate, or dextrose, then drained and optionally dehydrated (dried) to reduce moisture content. Next, the potato strips are deep fried in oil to par fry them to a moisture in the range of

38% to 58%. The parfried strips are then frozen and enrobed with oil. Taylor et al. also note that flavoring agents, such as salt, can be added to the frying and/or enrobing oil.

Claim 5 is distinguished from the Taylor et al. patent in many ways. Claim 5 concerns French fries for microwave reconstitution, whereas Taylor et al. concerns French fries for oven reconstitution (which Taylor et al. identifies as having "major" problems). Microwavable French fries have long been a problem and a goal. In the past, when French fries have been reconstituted with microwave energy, the resulting product was tough, chewy, and/or lack crispness, therefore, making them objectionable to consumers. Generally, those undesirable characteristics arise from the fact that microwave energy physically interacts with the potato product rather than merely applying thermal energy.

Claim 5 also notes that potato pieces are processed to a total solids in the range of 40 to 50% by weight, but Taylor et al. has no such limitation. In fact, Taylor et al. does not mention total solids anywhere in its specification. This characteristic for microwaveable French fries is important because the resulting French fries have been found to produce crispy potato pieces after microwave reconstitution.

In addition, Claim 5 applies oil to frozen potato pieces, but requires that the oil be solid below 32°F and liquid above 50°F, while Taylor et al. make no such limitation or disclosure. With Applicants' specification of the oil characteristics, processing, handling, and packaging of the resulting product is enhanced because the absence of liquid oil on frozen pieces substantially

reduces the amount of oil that can be deposited on surfaces of processing equipment, packages, and consumer's hands.

Furthermore, Claim 5 applies encapsulated salt to the frozen potato pieces so that salt comprises 0.8 to 1.5% by weight of the potato pieces. Taylor et al. only suggest inclusion of salt – not encapsulated – in the frying oil or the enrobing oil, and fail to specify any particular weight or amount of salt to be used. Thus, Taylor et al. do not specify any concentration of salt and, because of the proposed process introduction (in the frying oil or the enrobing oil) do not teach the use of encapsulated salt.

The Shanbhag et al. '616 patent deals with French fried potatoes for subsequent microwave reheating and explains that:

In a microwave oven, high frequency energy is passed through the food product. The power absorption or specific absorption rate for a particular product depends upon a variety of physical and chemical factors, such as frequency, product temperature, the magnitude of the electric field in the product, density and dielectric constants. The high frequency energy excites polar molecules (such as water) contained within the food product and heat is generated as a result. (Col. 1, lines 51-59).

Thus, Shanbhag et al. '616 confirms that substantive physical differences exist between microwave reconstitution and conventional thermal reconstitution.

The Shanbhag '616 process starts with dust-coated potato strips that are previously parfried or parfried and frozen. (Col. 4, lines 26-31). Such potato strips "generally have a moisture content of about 60-70%, a fat content of from about 4 to about 7 percent by weight, and a potato solids content of from about 23 to about 36 percent by weight of the potato strip. (Col. 5, lines 25-29).

According to the Shanbhag '616 disclosure, the potato strips are thawed to an internal temperature of 27° to 35°F. (Col. 5, lines 53-57). Then, the potato pieces are dusted with potato granules to give a thin coating, and subjected to a finish frying step (Col. 6, lines 8-10) – which occur in a three-zone fryer (Col. 8, lines 59-68). The potato pieces are then coated with potato granules (Col. 7, lines 6-17), and may be coated with a layer of fat-encapsulated salt. (Col. 10, lines 6-11). Next, the potato pieces are frozen.

As with the Taylor et al. patent, numerous differences exist between the process of Claim 5 and the Shanbhag et al. '616 process.

The process of Claim 5 starts with high solids content potato pieces – 40 to 50% by weight. In sharp contrast, the Shanbhag et al. '616 process uses potato pieces with much lower solid content – 23 to 36%.

Claim 5 freezes the potato pieces after the desired solid content is attained. Shanbhag et al. proceed to finish fry the potato pieces and apply a potato coating and salt layer before freezing. According to Claim 5, after the freezing step, oil with particular characteristics is applied to the potato pieces, and then the encapsulated salt is added – a different sequence than Shanbhag et al. '616 suggests.

The Saunders et al. patent discloses a potato segment with undulating surfaces suitable for microwave heating. Saunders et al. disclose potato segments with a total solids content (including oil solids and potato solids) of from about fifty-six percent to about sixty-four percent – measured after freezing. (Col. 4, lines 36-41).

Neither Saunders et al. nor Citti et al. discloses use of salt, either encapsulated or unencapsulated. Moreover, there is no discussion in either Saunders et al. or Citti et al. of oil having the characteristics recited in Claim 5.

Returning now to the rejection of Claim 5 based on the Taylor et al., the Shanbhag et al. '616, the Saunders et al., and the Citti et al. patents, none of those prior art references, discloses the sequence of steps recited in Claim 5 for a microwavable French fry, the recited solids content, or finishing oil with the recited characteristics. But Claim 5 includes those characteristics. Those differences between Claim 5 and the cited patents would not be obvious to one of ordinary skill in the art. Processing of French fried potato pieces is a crowded art. Oven-processing is quite different from microwave processing – particularly in view of the different physical phenomena that generate heat. For all these reasons, Applicants respectfully submit that it would not be obvious to one of ordinary skill in the art to arrive at the process of Claim 5 from the teachings of the applied prior art patents.

Applicants also note that Claim 10 of the pending application elaborates on a suitable process for attaining the 40 to 50% solid content for potato pieces. In this connection, Claim 10 includes two parfrying steps at particular temperatures as contrasted with the Shanbhag et al. '616 patent which finish fries – rather than parfrying. Moreover, neither the Taylor et al. patent nor the Shanbhag et al. '616 patent teaches a frying step which reduces solid content of potato pieces by 10-15 weight percent as part of a process to achieve a desired solid content for the potato pieces.

For these additional reasons, Applicants also submit that Claim 10 is non-obvious and, therefore, patentable.

Claims 5-12 depend directly or ultimately from Claim 5 and are allowable therewith for the same reasons as discussed above.

The Obviousness Rejection of Claim 7:

Claim 7 presently stands rejected as being obvious to one of ordinary skill in the art considering the Taylor patent in view of the Shanbhag et al. '616 patent and the Saunders et al. or the Citti et al. patent as applied to claims 5 and 6 and 8-12, and further in view of the Turpin patent (U.S. Patent No. 5,096,723). The Office Action argues that it would have been obvious to package the French fries in a carton having two microwave susceptor surfaces since it is old to package French fries in such a carton, according to Turpin's figures.

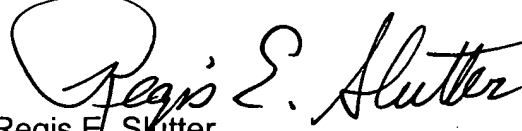
Response:

As noted, Claim 7 depends from Claim 5 and is allowable therewith.

Conclusion:

Applicants respectfully submit that all outstanding rejections to Claims 5-12 have been overcome, placing those claims in condition for a prompt notice of allowance.

Respectfully submitted

A handwritten signature in black ink, appearing to read "Regis E. Slutter". The signature is written in a cursive style with a large, looping initial "R".

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